

REMARKS

Claims 1-14 and 18-23 remain in the application, the claims having been editorially amended. Reconsideration of the application and allowance of all claims are respectfully requested in view of the above amendments and the following remarks.

The editorial amendments requested by the examiner in paragraph 2 of the Office action have been made. The only additional change is to correct the dependency of claims 19, 21 and 23, which are system claims properly dependent on claim 8. Entry of the amendments is requested in that they raise no new issues and only adopt the suggestions of the examiner.

The prior art rejections are again respectfully traversed. The concept of the present invention is a signaling multiframe that is shared on a multiple access basis by a plurality of remote units. In a conventional arrangement, there are N remote units each assigned a respective time slot. The present invention seeks to improve on the efficiency of this by providing fewer time slots than there are remote units, and having the time slots shared on a demand assignment basis. The way this is done according to the present invention is to establish a set of "virtual identities" which maintain the one to one correspondence with the signaling time slots, and to have these virtual identities shared on a demand assignment basis by the remote units. A further and significant improvement according to the present invention is that the number of virtual identities, and therefore time slots, is dynamically varied in accordance with signaling load.

Applicants have previously pointed out that neither Cheng nor any of the other prior art of record address the issue of "virtual identities." The examiner has responded by adopting a broad interpretation of "virtual identity," arguing that the specification does not clearly define

virtual identity, so he considers the channel FD-1 itself in Cheng to be a virtual identity. In rejecting claims 18-23, the examiner again takes the position that the term "virtual identity" reads on a signaling channel in Cheng. But even with this reading of the claim language, the invention is not taught

A critical further feature of the invention is the dynamic variation of the number of virtual identities, and in dependence on the signaling channel load. This is clearly called out in claims 1 and 8 which recite changing the predetermined number of virtual identities based on the level of occupancy of the multiframe.

In the discussion bridging pages 4-5 of the Office action, the examiner refers to lines 58-67 of column 5 and lines 1-14 of column 6 and Fig. 2 of Cheng as support for the dynamic variation of the number of virtual identities, but the examiner has misread these passages of Cheng. Cheng points out that there are *a* information channels (D-channels) in the forward direction and *c* D-channels in the reverse direction, and there are *b* signaling channels (B-channels) in the forward direction and *d* B-channels in the reverse direction. There is no discussion of having the system change the value of *a*.

What Cheng does is to reassign a remote terminal to a different signaling channel to balance the load on the signaling channels, but there is no discussion anywhere of changing the number of signaling channels in accordance with load. Lines 50-55 of column 8 describe the denial of service because there is no signaling channel available. The extended discussion of the contention resolution algorithm continues on over to column 11, yet there is not a single mention of the possibility of increasing the number of signaling channels.

The secondary references relied on by the examiner do not make up for the deficiency in Cheng. There is no obvious combination of the teachings of the cited references which would have led to a system which dynamically varies the number of signaling channels and dynamically allocates remote units to those signaling channels, as is required in claims 1 and 8.

Claim 18 is allowable due to its dependence on claim 1. In addition, as discussed above, the load management technique used by Cheng is to reassign remote units to different signaling channels to balance out the load of remote units handled by each signaling channel. This concept of having multiple remote units using a single signaling channel is reflected throughout the Cheng specification, e.g., at lines 36-37 of column 8.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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